



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 112 TO FACILITY OPERATING LICENSE NO. NPF-3

TOLEDO EDISON COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

DOCKET NO. 50-346

1.0 INTRODUCTION

By letter dated October 27, 1987, Toledo Edison Company requested several changes to the plant Technical Specifications (TS's) for the Davis-Besse Nuclear Power Station, Unit 1. The proposed TS changes involve Section 3/4.3.2, Table 3.3-5, Safety Features System Response Times; and Section 3/4.6.3, Table 3.6-2, Containment Isolation Valves, to reflect the deletion of the Safety Features Actuation System (SFAS) actuation signal from valve MU-33 (the makeup line containment isolation valve) and the addition of a remote manual valve MU-6421, as a containment isolation valve for a parallel line. Valve No. MU-33 will be renumbered as MU-6422. Toledo Edison Company indicated that the reason for the above change is to support enhanced feed and bleed modifications. The following evaluation deals with the containment isolation aspect of the above system modification.

2.0 EVALUATION

The existing valve, MU33, in the reactor makeup line is an outboard containment isolation valve with an automatic SFAS isolation signal. The proposed modification would change valve MU33 from an automatic to a remote manual valve controlled from the control room.

Following a postulated loss of main feedwater and emergency feedwater, Toledo Edison Company proposed to utilize the makeup lines as a means for providing water from the Borated Water Storage Tank (BWST) to the reactor core for core cooling. If valve MU-33 on the makeup line were to close on the automatic SFAS signal, as in the current design, it would interrupt the feed and bleed process, and could cause damage to the makeup pumps due to deadheading. In order to support a reliable feed and bleed process the automatic SFAS isolation from valve MU-33 is being removed. Therefore, Toledo Edison Company proposed remote manual control from the control room to isolate valve MU-33.

SRP Section 6.2.4 permits remote manual valves to be used in lieu of automatic valves as an acceptable alternative for containment isolation provision if these lines are in engineered safety feature or related systems and must remain in service following an accident. Where remote manual valves are used, leakage detection capabilities should be provided. The nature of the makeup system during feed and bleed cooling is similar to an ESF system since it serves as a last resort and provides the only means of maintaining core cooling following the unlikely event of loss of both main and emergency feedwater.

With regard to leakage in radioactive fluid systems outside containment, Toledo Edison Company indicated it has implemented a program to minimize leakage outside containment from several systems, including the makeup system in accordance with Technical Specification 6.8.4(a). The program consists of preventive maintenance and/or periodic visual inspection (once per shift) along with periodic integrated system leakage testing. Since the makeup system is in continuous operation during normal plant operation, any leakage outside containment can be observed during the periodic visual inspection. Therefore, the staff concludes that the remote manual valve MU-33 satisfies the GDC-55 on other defined bases as delineated in SRP 6.2.4.

The newly added remote manual valve MU-6421 also satisfies the containment isolation provision on the same basis as MU-33 because MU-6421 is in a parallel redundant makeup line of similar design. Renumbering valve MU-33 as MU-6422 is an administrative change only, and therefore, is acceptable.

Based on the above evaluation, the staff finds that the following proposed TS changes are acceptable: (1) deletion of the SFAS actuation signal from valve MU-33; (2) addition of a remote manual valve, MU-6421, as a containment isolation valve; and (3) renumbering MU-33 to MU-6422.

These changes are in accordance with the requirements of GDC 55 for adequate containment isolation on other defined bases because of the importance of the backup feed-and-bleed capability and leak detection provisions.

3.0 ENVIRONMENTAL CONSIDERATION

An Environmental Assessment and Finding of No Significant Impact has been issued for this amendment (53 FR 18627, May 24, 1988).

4.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: May 25, 1988